What is claimed is:

1. An isolated nucleic acid molecule selected from the group consisting of:

a) a nucleic acid molecule having a nucleotide sequence which is at least 91% identical to the nucleotide sequence of SEQ ID NO: 1 or 2, the nucleotide sequence of the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282, or a complement of one of these;

b) a nucleic acid molecule comprising at least 35 nucleotide residues and having a nucleotide sequence identical to at least 35 consecutive nucleotide residues of SEQ ID NO: 1 or 2, the nucleotide sequence of the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282, or a complement of one of these;

c) a nucleic acid molecule which encodes a polypeptide having the amino acid sequence of SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282;

d) a nucleic acid molecule which encodes a fragment of a polypeptide having the amino acid sequence of SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282, wherein the fragment comprises at least 15 consecutive amino acids of SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282; and

e) a nucleic acid molecule which encodes a naturally occurring allelic variant of a polypeptide having the amino acid sequence of SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282, wherein the nucleic acid molecule hybridizes with a nucleic acid molecule having a sequence comprising SEQ ID NO: 1 or 2, or the nucleotide sequence of the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282, or with a complement of one of these, under stringent conditions.

2. The isolated nucleic acid molecule of claim 1, which is selected from the group consisting of:

a) a nucleic acid having the nucleotide sequence of SEQ ID NO: 1 or 2, or the nucleotide sequence of the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282; and

b) a nucleic acid molecule which encodes a polypeptide having the amino acid sequence of SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282.

3. The nucleic acid molecule of claim 1 further comprising vector nucleic acid sequences.

4. The nucleic acid molecule of claim 1 further comprising nucleic acid sequences encoding a heterologous polypeptide.

5. A host cell which contains the nucleic acid molecule of claim 1.

6. The host cell of claim 5 which is a mammalian host cell.

7. A non-human mammalian host cell containing the nucleic acid molecule of claim 1.

8. An isolated polypeptide selected from the group consisting of:

a) a fragment of a polypeptide having the amino acid sequence SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282, wherein the sequence of the fragment comprises at least 15 consecutive amino acid residues of SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282.

b) a naturally occurring allelic variant of a polypeptide having the amino acid sequence SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes with a nucleic acid molecule having a sequence comprising SEQ ID NO: 1 or 2, the nucleotide sequence of the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282, or a complement of one of these, under stringent conditions; and

c) a polypeptide which is encoded by a nucleic acid molecule having a nucleotide sequence which is at least 91% identical to a nucleic acid molecule having a sequence comprising SEQ ID NO: 1 or 2, the nucleotide sequence of the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282, or a complement of one of these.

9. The isolated polypeptide of claim 8 having the amino acid sequence SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282.

10. The polypeptide of claim 8 further comprising heterologous amino acid sequences.

11. An antibody which selectively binds with the polypeptide of claim 8.

12. A method for producing a polypeptide selected from the group consisting of:

a) a polypeptide having the amino acid sequence SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282;

b) a polypeptide comprising a fragment of the amino acid sequence of SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July

28, 2000 as accession number PTA-2282, wherein the fragment comprises at least 15 consecutive residues of SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282; and

c) a naturally occurring allelic variant of a polypeptide having the amino acid sequence of SEQ ID NO: 3 or the amino acid sequence encoded by the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282, wherein the polypeptide is encoded by a second nucleic acid molecule which hybridizes with a third nucleic acid molecule having a sequence comprising SEQ ID NO: 1 or 2, the nucleotide sequence of the clone deposited with ATCC® on July 28, 2000 as accession number PTA-2282, or a complement of one of these, under stringent conditions;

the method comprising culturing the host cell of claim 5 under conditions in which the nucleic acid molecule is expressed.

13. A method for detecting the presence of the polypeptide of claim 8 in a sample, comprising:

a) contacting the sample with a compound which selectively binds with the polypeptide; and

b) determining whether the compound binds with the polypeptide in the sample.

14. The method of claim 13, wherein the compound which binds with the polypeptide is an antibody.

15. A kit comprising a compound which selectively binds with the polypeptide of claim 8 and instructions for use.

16. A method for detecting the presence of the nucleic acid molecule of claim 1 in a sample, comprising the steps of:

a) contacting the sample with a nucleic acid probe or primer which selectively hybridizes with the nucleic acid molecule; and

b) determining whether the nucleic acid probe or primer binds to the nucleic acid molecule in the sample.

17. The method of claim 16, wherein the sample comprises mRNA molecules and is contacted with a nucleic acid probe.

18. A kit comprising a compound which selectively hybridizes with the nucleic acid molecule of claim 1 and instructions for use.

19. A method for identifying a compound which binds with the polypeptide of claim 8, the method comprising the steps of:

a) contacting the polypeptide, or a cell expressing the polypeptide with a test compound; and

b) determining whether the polypeptide binds with the test compound.

20. The method of claim 19, wherein binding of the test compound with the polypeptide is detected by a method selected from the group consisting of:

a) detection of binding by direct detecting of test compound/polypeptide binding;

b) detection of binding using a competition binding assay;

c) detection of binding using an assay for h-ig6p-mediated signal transduction.

21. A method for modulating the activity of the polypeptide of claim 8, the method comprising contacting the polypeptide or a cell expressing the polypeptide with a compound which binds with the polypeptide, at a concentration sufficient to modulate the activity of the polypeptide.

22. A method for identifying a compound which modulates the activity of the polypeptide of claim 8, the method comprising:

a) contacting the polypeptide with a test compound; and

b) determining the effect of the test compound on the activity of the polypeptide to thereby identify a compound which modulates the activity of the polypeptide.

23. The method of claim 22, wherein the activity is conversion of glucose-6-phosphate to glucose.

24. An antibody substance which selectively binds with the polypeptide of claim 8.

25. A method of modulating a function of a pancreatic islet cell that is attributable to the activity of h-ig6p protein, the method comprising contacting the cell with a compound which modulates one of expression of a gene encoding h-ig6p protein and activity of h-ig6p protein, whereby the function is modulated.

26. The method of claim 25, wherein the function is insulin secretion by the cell.

27. A method of assessing whether a compound is useful for modulating insulin secretion, the method comprising contacting a test cell which expresses h-ig6p with the compound and comparing one of

expression of h-ig6p protein and

activity of h-ig6p protein

in the test cell with expression or activity of h-ig6p protein in a control cell of the same type, whereby a difference between expression or activity of h-ig6p protein in the test and control cells is an indication that the compound is useful for modulating insulin secretion.

28. The method of claim 27, wherein the test and control cells are pancreatic cells.

29. The method of claim 27, wherein the test and control cells are cells that have been transformed with an expression vector encoding h-ig6p.

30. A method of alleviating diabetes in a human patient, the method comprising administering to the patient a compound that inhibits one of

expression of a gene encoding h-ig6p protein and

activity of h-ig6p protein

in pancreatic islet cells of the patient, whereby diabetes is alleviated in the patient.

31. A method of alleviating hyperinsulinemia in a human patient, the method comprising administering to the patient a compound that enhances one of

expression of a gene encoding h-ig6p protein and

activity of h-ig6p protein

in pancreatic islet cells of the patient, whereby hyperinsulinemia is alleviated in the patient.

38. A method of enhancing secretion of insulin in a human patient, the method comprising administering to the patient a compound that inhibits one of

expression of a gene encoding h-ig6p protein and

activity of h-ig6p protein

in pancreatic islet cells of the patient, whereby secretion of insulin is enhanced in the patient.

39. A method of inhibiting secretion of insulin in a human patient, the method comprising administering to the patient a compound that enhances one of

expression of a gene encoding h-ig6p protein and

activity of h-ig6p protein

in pancreatic islet cells of the patient, whereby secretion of insulin is inhibited in the patient.